

PATENT ABSTRACTS OF JAPAN

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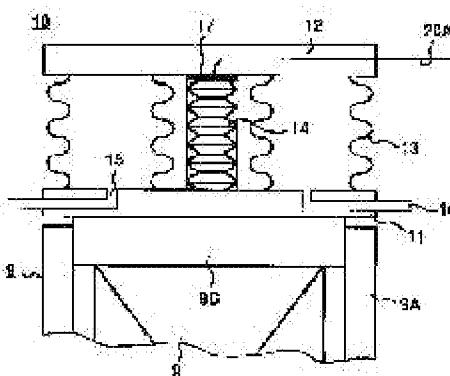
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(54) FASTENING CONTROL DEVICE FOR FUEL CELL

(57)Abstract:

PROBLEM TO BE SOLVED: To maintain the fastening pressure to be applied to a fuel cell main body at a desirable value by arranging a bellows and a fastening spring between a support plate and a fuel cell main body, and detecting the pushing force of the bellows and the fastening spring so as to control the flow of the medium into the bellows.

SOLUTION: A fuel cell stack 9 of a fastening fitting 10 is surrounded by temperature insulating plates 9A, 9B for sealing. Plural fastening bellows 13 are arranged between a lower end plate 11 and an upper end plate 11 arranged in an upper side of the temperature insulating plate 9B, and fastening springs 14 are arranged between the fastening bellows 13. Inert gas is led into the fastening bellows 13 from through holes 15, 16 formed by the fastening bellows 13 and the lower end plate 11. A pressure sensing sheet 17 is arranged between the upper end plate 12 and the fastening spring 14, and the pushing force of the fastening spring 14 is computed on the basis of the detecting signal of the pushing force from the pressure sensing sheet 17, and the pushing force of the fastening bellows 13 is computed on the basis of the internal



pressure thereof. A sum of both computed values of the pushing force and a difference between both the pushing force and a reference pushing force are obtained, and the internal pressure of the fastening bellows 13 is controlled so as to eliminate the difference between both the pushing force.